Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method for detecting flaws in a disk drive, comprising:

sampling a signal derived from at least a portion of a track on a disk to obtain n samples;

deriving a value from m of said n samples, each of said m samples having an amplitude greater than 50% of the amplitude of an isolated pulse, wherein said m samples are significant samples; ~~and~~

comparing said derived value to a threshold value;

using said step of comparing to determine whether there is a flaw in said at least a portion of said track on said disk.

2. (currently amended) The method of Claim 1, further comprising:

generating a signal if said value derived from said m samples is determined to be unacceptable.

3. (currently amended) The method of Claim 1, further comprising:

generating a signal if said value derived from said m samples is less than said threshold value.

4. (currently amended) The method of Claim 1, further comprising:

generating a signal if said value derived from said m samples is not greater than said threshold value.

5. (original) The method of Claim 1, wherein said at least a portion of a track is encoded using a predetermined pattern, and wherein said m samples are taken at times corresponding to expected peak values in said sampled signal.

6. (currently amended) The method of Claim 1, wherein each of said m samples has a magnitude, and wherein said step of deriving a value from m of said n samples comprises:

calculating a sum comprising said magnitude of each of said m samples.

7. (original) The method of Claim 1, wherein each of said m samples has a magnitude, and wherein said step of deriving a value from m of said n samples comprises:

calculating a sum comprising said magnitude of each of said m samples; and

dividing said sum by m.

8. (currently amended) The method of Claim 1, wherein each of said m samples has a magnitude, and wherein said step of deriving a value from m of said n samples comprises:

integrating said magnitude of each of said m samples.

9. (currently amended) The method of Claim 1, wherein said step of deriving a value from m of said n samples comprises:

calculating a difference between an absolute value of a magnitude of each of said m samples and an optimal value.

10. (currently amended) The method of Claim 9, wherein said step of deriving a value from m of said n samples further comprises:

calculating a sum of each of said differences.

11. (currently amended) The method of Claim 9, wherein said step of deriving a value from m of said n samples further comprises:

calculating an average of each of said differences.

12. (currently amended) The method of Claim 9, wherein said step of deriving a value from m of said n samples comprises:

integrating each of said differences.

13. (currently amended) The method of Claim 1, wherein said step of deriving a value from m of said n samples comprises:

filtering said m samples.

14. (original) The method of Claim 13, wherein a repeated pattern of data is encoded in said at least a portion of a track in a 2T data pattern, wherein in delay operation notation a filter used in said step of filtering is given by the function $1 - D^2 + D^4 - D^6 \ldots \pm D^{2n}$.

15. (original) The method of Claim 13, wherein a repeated pattern of data is encoded in said at least a portion of a track in a 3T data pattern, wherein in delay operator notation said filter is given by the function $1 + D - D^3 - D^4 + D^6 + D^7 \ldots [-/+ D^{n-1} -/+ D^n]$.

16. (original) The method of Claim 1, wherein m is equal to n.

17. (currently amended) The method of Claim 2, further comprising:

providing said signal to a controller.

18. (original) The method of Claim 1, wherein n is greater than m.

19. (original) The method of Claim 1, wherein n is greater than 1.

20. (cancelled)

21. (currently amended) A method for detecting flaws in a disk drive, comprising:

magnetizing each bit cell included in a plurality of bit cells on a disk in said disk drive in at least one of two directions;

reading from n of said plurality of bit cells;

sampling a signal derived from said n bit cells during said step of reading to obtain at least n samples;

deriving a value from m of said at least n samples; ~~and~~

comparing said derived value to a threshold value;

using said step of comparing to determine whether there is a flaw in said plurality of bit cells on said disk.

22. (original) The method of Claim 21, further comprising:

generating a signal in response to a determination during said step of comparing that said derived value is unacceptable.

23. (original) The method of Claim 21, further comprising:

generating a signal in response to a determination during said step of comparing that said derived value is less than said threshold value.

24. (original) The method of Claim 21, further comprising:

generating a signal in response to a determination during said step of comparing that said derived value is not greater than said threshold value.

25. (original) The method of Claim 21, wherein said step of deriving a value from m of said at least n samples comprises calculating a sum comprising an absolute value of each of said m samples.

26. (original) The method of Claim 21, wherein said step of deriving a value from m of said at least n samples comprises:

calculating a sum comprising an absolute value of each of said m samples;

dividing said sum by m to obtain an average value of said m samples.

27. (original) The method of Claim 21, wherein said step of deriving a value from m of said at least n samples comprises:

calculating a difference between each of said m samples and an optimal value to obtain m differences.

28. (currently amended) The method of Claim 27, wherein said step of deriving a value from m of said at least n samples further comprises:

calculating a sum of each of said m differences.

29. (currently amended) The method of Claim 27, wherein said step of deriving a value from m of said at least n samples further comprises:

calculating an average of each of said m differences.

30. (currently amended) The method of Claim 27, wherein said step of deriving a value from m of said at least n samples further comprises:

integrating each of said m differences.

31. (currently amended) The method of Claim 21, wherein said step of deriving a value from m of said at least n samples ~~cells~~ comprises:

filtering said n samples.

32. (currently amended) The method of Claim 21, wherein said step of deriving a value from m of said at least n samples comprises:

integrating an absolute value of each of said m samples.

33. (original) The method of Claim 21, wherein said step of magnetizing in at least one of two directions each bit cell included in a plurality of bit cells on said disk comprises creating a change in magnetization on every i^{th} bit cell, and wherein said step of deriving a value from m of said at least n samples comprises filtering said m samples with a filter given by $1 - D^2 + D^4 - D^6 \ldots \pm D^{2n}$.

34. (original) The method of Claim 21, wherein said step of magnetizing in at least one of two directions each bit cell included in a plurality of bit cells on said disk comprises:

magnetizing a first bit cell in a first direction;

magnetizing a second bit cell in said first direction;

magnetizing a third bit cell in a second direction; and

magnetizing a fourth bit cell in said second direction.

35. (original) The method of Claim 34, wherein said step of reading from said at least n bit cells comprises reading from said first, second, third and fourth bit cells, wherein said step of sampling a signal derived from said at least n bit cells during said step of reading comprises sampling a signal derived from said first, second, third and fourth bit cells, and wherein said m samples comprise those samples derived from magnetic transitions between said first and second and between said third and fourth bit cells.

36. (original) The method of Claim 21, wherein said step of magnetizing each bit cell included in a plurality of bit cells on said disk comprises creating an iT pattern of encoded data.

37. (original) The method of Claim 21, further comprising generating a flag if said comparison of said derived value to said threshold value indicates that said derived value is unacceptable.

38. (currently amended) A hard disk drive, comprising:

a base;

a disk comprising a plurality of data tracks arranged concentrically about a spindle;

a transducer head for reading and writing information to said data tracks, wherein said transducer head is moveable in a radial direction with respect to said disk to address a selected one of said plurality of data tracks;

a voice coil motor, interconnected to said transducer head, for moving said transducer head with respect to said data tracks;

a controller, interconnected to said voice coil motor, for controlling a position of said transducer head with respect to said data tracks; and

a channel, interconnected to said transducer head, wherein a signal derived from information encoded in n bit cells in a one of said data tracks is read by said transducer head and is transmitted to said channel, wherein in a flaw detection mode said information encoded in said data tracks is encoded in a known pattern, wherein in said flaw detection mode said signal is sampled at least m times, wherein m samples are used to derive a first value, each of said m samples having an amplitude greater than 50% of the amplitude of an isolated pulse, wherein said m samples are significant samples, and wherein said first value is compared to a threshold value.

39. (original) The hard disk drive of Claim 38, wherein said channel generates a signal to indicate a detected flaw if said first value is less than said threshold value, and wherein said signal is passed to said controller.

40. (original) The hard disk drive of Claim 38, further comprising a filter, wherein said filter performs, in delay operator notation, a function given by $1 - D^2 + D^4 - D^6 \ldots \pm D^{2n}$.

41. (original) The hard disk drive of Claim 38, further comprising a filter, wherein said filter performs, in delay operator notation, a function given by $1 + D - D^3 - D^4 + D^6 + D^7 \ldots [-/+ D^{n-1} -/+ D^n]$.

42. (original) The hard disk drive of Claim 38, further comprising:

a shift register, wherein at least said m samples can be stored;

a summing block, wherein said m samples can be added to produce a sum; and

a comparator, wherein said sum can be compared to said threshold value.